United States
Environmental Protection
Agency

EPA Selects Cleanup Plan for Fansteel Site

Vulcan Louisville Smelting/Fansteel Site
North Chicago, Illinois May 2008

For More Information

EPA will hold a public meeting to discuss its proposed cleanup plan for the Vulcan Louisville Smelting/ Fansteel Superfund site. The meeting will be:

Thursday, May 29
6:30-8:30 p.m.
North Chicago City Hall
1850 Lewis Ave.

Contact EPA

These EPA representatives are available to answer questions and provide more information. Contact Janet Pope if you need special accommodations to attend the meeting.

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EPA Community Involvement Coordinator
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pope.janet@epa.gov

Syed Quadri
EPA Remedial Project Manager
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quadri.syed@epa.gov

Call EPA toll-free at 800-621-8431, weekdays 9 a.m. – 4:30 p.m.

Read the documents

You may view site-related documents and files at:

North Chicago Public Library
2100 Argonne Drive

Contaminated soil would be dug up and hauled away from the Vulcan Louisville Smelting Superfund site in North Chicago under a cleanup plan proposed by U.S. Environmental Protection Agency. The site is also known as the Fansteel site. EPA's plan is to dig up as much as 15 feet of soil contaminated with trichloroethylene, better known as TCE, and other hazardous compounds. The soil will be taken to an appropriate disposal facility. The site will be cleaned to levels that are appropriate for future commercial or industrial use.

This plan also calls for measures to protect people who might work in the area in the future from exposure to contamination that may remain underground. These include measures EPA calls "institutional controls," such as deed restrictions, and land and ground-water use restrictions. Other protection measures include a cover over areas where some contaminated soil remains, and a system to prevent potentially hazardous gases from seeping out of the ground into buildings that might be constructed after the site is cleaned up.

TCE is a synthetic chemical used in metal degreasing. Other contaminants in the soil include vinyl chloride, cadmium, lead and polychlorinated biphenyls, better known as PCBs. EPA believes this cleanup action will protect people and the environment by removing contaminated soil from the site, preventing exposure to any contamination that remains and preventing contaminants from getting into the ground water.

Public comment

EPA encourages public comment on this proposed cleanup plan for the Fansteel site. EPA will accept comments between May 22 and June 20. There will be a public meeting at the North Chicago City Hall, 1850 Lewis Ave., on May 29 at 6:30 p.m. (See box at left.) EPA could alter its proposed plan or choose a new one based on public comments, so your input is important.

You may also review the technical and scientific documents on the Fansteel site. For example, a document called an "engineering evaluation/cost analysis study" shows what is known about the pollution, explains potential risks to people and the environment, and describes various options for handling the problem. This and other documents are available at the North Chicago Public Library (see box at left).

Site history

Fansteel's operations were on an 8-acre parcel now owned by the city of North Chicago. The company's buildings have been demolished. Portions of the property covered with asphalt or concrete were used as parking areas or access ways. The former Fansteel facility is enclosed by security fencing. An adjacent 6.4-acre vacant lot is currently owned by BREMS Realty, LLC. This lot is bisected by Pettibone Creek, an intermittent creek.

The Vulcan Louisville/Fansteel facility, a former smelting operation, is at 1 Tantalum Place, two miles east of the intersection of Martin Luther King Jr. Street (22nd Street) and U.S. Highway 41. The facility is bounded by the R. Lavin & Sons facility to the east, 22nd Street to the south, Commonwealth Avenue to the west, and the Elgin, Joliet & Eastern Railroad to the north.

Several environmental investigations have been performed. In 1998, EPA conducted a $3.1 million cleanup, removing 49,475 cubic yards of contaminated soil and sediment from the vacant lot.

In 2002, Fansteel filed for bankruptcy. As part of a bankruptcy settlement agreement, Fansteel completed a site investigation. The company's property was sold to the city of North Chicago for $1.4 million, and Fansteel paid that amount to EPA to fund future cleanup at the site. Fansteel also paid EPA an additional $700,000 and the Department of Defense paid $425,000 to resolve its potential liability. Those funds were placed in a special account that EPA will use to help pay for the cleanup.

Cleanup options

EPA considered four options for cleaning up the Fansteel site, each of which was evaluated against three criteria (see criteria explanation in the box at right). Here are summaries of the options:

- ***Alternative 1 – No action:*** EPA includes a "no-action" option as a basis for comparison with other cleanup options. Since no action would be taken, this option would not address the potential for human and animal contact with the contamination. **Cost: $0.**
- ***Alternative 2 – Excavation and Disposal of Contaminated Soil (EPA's recommended option):*** This option includes digging up contaminated soil and hauling it away. It also includes institutional and engineering controls for any future redevelopment. There would be semiannual ground-water monitoring to evaluate the effectiveness of natural processes that reduce contamination levels, and to prevent contamination at levels of concern from reaching the creek. This alternative can be completed within a short period of time and is most effective because it removes major contamination. **Cost: $2.5 million.**
- ***Alternative 3 – Surface Capping with Bioremediation:*** In this option, TCE-contaminated soil would be cleaned on the site using a process called "bioremediation." This process uses natural microorganisms to digest contaminants and break them down into non-hazardous components. Other contaminated areas on the site would be capped. This alternative takes several years to implement. **Cost: $1.2 million.**
- ***Alternative 4 – Surface Capping with Permeable Reactive Barrier:*** This option involves putting a cover, or cap, over the soil and using a system known as a "permeable reactive barrier" to capture the ground-water plume and pass the ground water through a filter to treat it. This would be done either by relying on gravity or by forcing the water through the filter with hydraulics. This alternative takes several years to implement and will treat ground water contaminated with TCE. **Cost: $2.4 million.**

These cleanup options are described in detail in the technical and financial report for the site known as the engineering evaluation/cost analysis report.

Evaluating the options

EPA used three criteria to compare the alternatives:

1. **Effectiveness** - Refers to the ability of an alternative to meet the objectives of the cleanup, especially concerning protection of public health and the environment.
2. **Implementability** - Considers the technical and administrative feasibility of implementing the alternative, such as the availability of goods and services.
3. **Cost** - Refers to estimated capital, operation and maintenance costs, as well as present worth costs. Present worth cost is an alternative's total cost over time in terms of today's dollars.

Recommended option for the site

EPA recommends Alternative 2 – excavation and disposal of contaminated soil – because it believes this option represents the best combination of effectiveness, implementability and cost to address the contaminated soil and ground water. Removing and disposing of the most highly contaminated soil will achieve cleanup objectives more quickly and effectively than the options relying on capping and on-site treatment, at a comparable cost.

These areas of the site are targeted for removal of contaminated soil:

1. The former Hazardous Waste Management Unit area on the north end of the Fansteel parcel.
2. A "hot spot" near Pettibone Creek on the vacant lot parcel.
3. The former drum storage area east of the main Fansteel plant building.
4. The mid-eastern edge of Fansteel Chemical Building A.

In addition, an impermeable cover will be installed in the former Above-Ground Storage Tank area, and over any areas where existing building floor slabs are removed as part of site redevelopment. Improvements to existing contaminated soil covers will also be made as necessary. The former transformer courtyard was not within the scope of the original study, but if sufficient special account funds remain they will be used to dig up about 74 cubic yards (134 tons) of PCB-contaminated soil there. This additional work is appropriate because it would be funded by payments Fansteel made to resolve all known environmental issues.

Some residual contamination will remain on the site after the cleanup, such as lower levels of lead and volatile organic compounds. So EPA is relying on institutional controls and engineering controls, which will be put in place under an agreement with the city of North Chicago. The city will ensure that the site is not used for residential purposes. It will also maintain covers over residual soil contamination and place deed restrictions on the property to limit digging and address future construction. The city will also ensure that vapor intrusion controls are installed for any structures built on the site. This is to prevent contaminated vapors from seeping through the soil into buildings. The agreement with the city also provides EPA and its representatives with a permanent right to site access. The approximate areas where soil contamination will be excavated and where impermeable covers will be used are shown on Figure 1.

Ground water contamination was also detected under the Fansteel site. While this ground water is not used for drinking, the contamination could pose a risk to indoor air in future buildings. The institutional and engineering controls in EPA's agreement with the city will also reduce the risk from the ground water. In addition, EPA's plan calls for four monitoring wells to check the ground water – following Illinois EPA regulations and requirements – while the residual contamination dilutes through a process known as natural attenuation.

EPA will work with the city to coordinate the cleanup work with redevelopment efforts as much as possible. The Agency will also consult with the city on leaving the planned excavation at the north end of the Fansteel property for use as a detention pond, rather than filling it with clean soil. Once the cleanup is done, EPA will establish a control plan and review the effectiveness of the cleanup every five years.

The EE/CA report and accompanying EPA Technical Memorandum provide a more detailed comparison of the options and supports the selection of this cleanup action.

Next steps

EPA will evaluate public reaction to the recommended cleanup option during the comment period. Based on new information or public comments, EPA may modify its recommended option or select another. EPA encourages you to review and comment on the cleanup options.

EPA will respond in writing to the comments in a document called a "responsiveness summary," which will be part of the final cleanup plan, known as the "action memorandum" in EPA terms. EPA will announce the final cleanup plan in a local newspaper advertisement and will place a copy in the local information repositories and post it on its Web site.

EPA estimates this action will cost $2.5 million and take three months to implement.

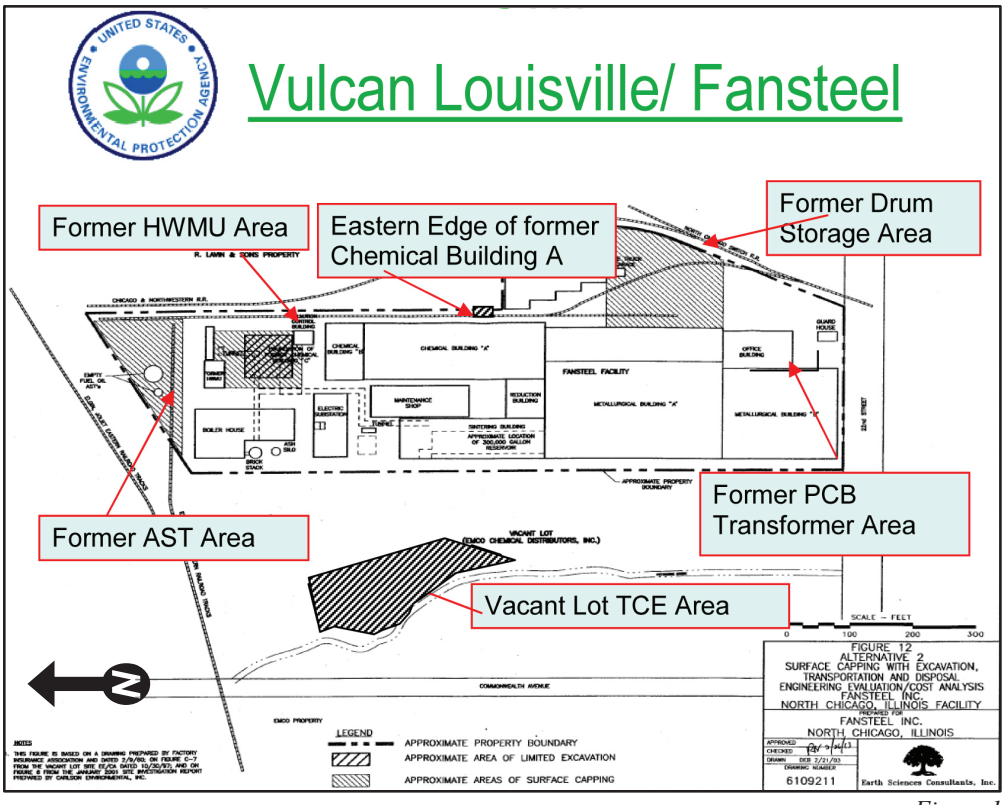

Figure 1

EPA Selects Cleanup Plan for Fansteel Site

United States
Environmental Protection
Agency

Region 5
Office of Public Affairs (P-19J)
77 W. Jackson Blvd.
Chicago, IL 60604

FIRST CLASS

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Public Meeting Scheduled

Date: Thursday, May 29

Time: 6:30-8:30 p.m.

Place: North Chicago City Hall
1850 Lewis Ave.